DEPARTMENT OF THE ARMY
UNITED STATES ARMY GARRISON HEIDELBERG
UNIT 29245
APO AE 09102

IMEU-HES-PWE

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Asbestos Brake Pads in Motor Pools

1. This memorandum applies to all unit commanders and managers having motor pool or similar operations involving the service of brake and clutch systems.

2. Attached Standard Operating Procedure regarding the reduction of asbestos dust during brake servicing is to be implemented, posted and enforced throughout all Maintenance Facilities within the United States Army Garrison Heidelberg.

3. POC is Mr. Haid, Asbestos Program Manager, DSN 387-3141.

Encl

ERNEST TAFOYA
Chief of Staff
USAG Heidelberg

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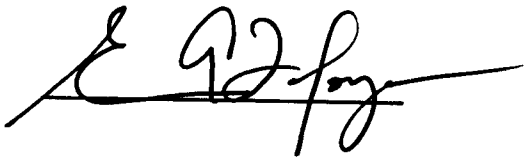
STANDING OPERATION PROCEDURES
REDUCING ASBESTOS DUST DURING BRAKE AND CLUTCH SERVICING

December 2005

ERNEST TAFOYA
Chief of Staff
USAG Heidelberg



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US Army Garrison Heidelberg
Standing Operating Procedures
Reducing Asbestos Dust During Brake And Clutch Servicing

1. PURPOSE:

This SOP is to provide motor pool maintenance personnel guidance how to prevent/ reduce asbestos airborne exposure during brake and clutch inspection and maintenance operations. If performed properly, the wet method using a spray bottle and the low pressure/wet cleaning method, using a low pressure sprayer, will reduce airborne asbestos concentrations.

2. BACKGROUND:

a. The GSA supply system has no quality control system in place, which clearly identifies asbestos versus asbestos free brake and clutch parts. The health effects of replacement materials for asbestos are also of concern. Asbestos and other fibers are invisible and give no warning signs of their presence; procedures described below should be followed to prevent exposure.

b. Facilities, which perform **less than five brake/clutch system repairs** per week must implement either the wet method or the low pressure/wet cleaning method. Air sampling should be conducted by an industrial hygienist during these operations to determine if work practice controls are providing the necessary protection or if respiratory protection will be necessary. If required, further action will be determined and monitored by Industrial Hygiene and coordinated with the Environmental Division. See paragraph 4 and 5 for the Wet Method Protocol.

c. Facilities, which perform more than five brake/clutch system repairs per week must implement the low pressure/wet cleaning method composed of a low pressure spray wash system. Air sampling must be conducted by an industrial hygienist during these operations to assure engineering controls are in place. See paragraph 6 and 7 for the Low Pressure Wash Protocol.

3. TECHNICAL ASSISTANCE:

a. Industrial Hygiene personal must evaluate all work places involving potential asbestos exposure.

b. Assistance is available from:

(1) USACHPPM-Europe
USAG Heidelberg -Industrial Hygiene
Unit 29237 APO AE 09102
DSN: 373-5364
FAX: 373-5258
e-mail: paul.sweeney1@us.army.mil

4. MANUAL WET METHOD EQUIPMENT AND CLOTHING :

Mechanic coveralls
Splash goggles (eye protection)
Disposable gloves (latex or nitrile exam gloves)
Spray bottle to wet down brake parts
Liquid soap
Rags
Water
Heavy duty plastic bags for packing of used brake parts
Heavy duty plastic bags for packing rags and other contaminated materials
Drum and big bags approved for disposal of solid asbestos waste (not a trash can)

5. WET METHOD STEP BY STEP PROCEDURE:

REMARK: THE FOLLOWING INSTRUCTIONS HOW TO APPLY THE WET METHOD AND THE LOW PRESSURE WASH METHOD DURING BRAKE PAD SERVICING SHOULD ALSO BE FOLLOWED DURING ANY MAINTENANCE/REPAIR WORK ON CLUTCH SYSTEMS. THE FOLLOWING STEP BY STEP PROCEDURE NEEDS TO BE ADJUSTED ACCORDINGLY AS REGARDS CLUTCHES.

CAUTION: DO NOT USE COMPRESSED AIR OR DRY BRUSHING TO CLEAN BRAKE ASSEMBLIES. NEVER REMOVE FRICTION MATERIAL (BRAKE PADS) FROM BRAKE ASSEMBLY.

Before cleaning break assemblies it must be insured that the breaking capabilities are not negatively influenced by the cleaning agent. (BGR 157 Para 5.10.1)

Fill spray bottle with water and a small amount of liquid soap. The liquid soap helps the spray mist to adhere to the fibers. Water alone doesn't work as well as slightly soapy water.

b. Place rags under brake drum to catch runoff.

c. Wet brake shoes through the anchor plate holes.

d. Rotate hub/brake drum 90 degrees and spray again into holes of anchor plate. Continue process until 360 degrees have been wetted.

e. Wet the hub/brake drum from the outside with the spray bottle.

f. Use proper lifting device(s) to lift and remove brake drum. If any dust or debris fall to the floor at anytime during any procedures, immediately dampen with fine mist from the spray bottle.

g. Wipe inside and outside of wet drum with a rag to remove dust and debris. Dispose of rag in the proper waste bag.

h. Wet brake assembly and shoes with the spray bottle using the fine mist setting on the tip, not the stream setting.

i. All overspray must be immediately wiped up to prevent spread of contaminated water.

j. Remove brake assemblies.

k. Pack the brake assemblies in suitable, sealed and leak-proof plastic bags for asbestos containing waste. The components should not dry out during this process and should be maintained in a wet condition. The plastic bag should be J-sealed by twisting the top of the bag to form a cigar shape; it then should be folded over on itself in a gooseneck fashion. The bag should then be sealed utilizing preferable plastic zip strips or duct tape to wrap around the gooseneck. The bagged brake assemblies will be turned into your respective SSA's. Any asbestos containing waste needs to be secured for transportation to prevent the release of asbestos fibers during the transportation and loading/unloading process.

l. Place the rags used to wipe overspray and to wipe inside of drum into a separate bag to be disposed of as hazardous waste. As rags are used place them into the bag. When the operation is complete place all waste (rags, gloves etc.) into the bag. Clean the work area and floor with damp rags (never dry sweep the floor) and dispose of the rags in the bag with the other waste material and seal it using the J-sealed method as described in paragraph k above. Place a label on the bag that says

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

Put the plastic bag in a barrel (lined with another durable plastic bag) labeled **CAUTION ASBESTOS WASTE** and place the lid on the barrel.

m. Install new, non-asbestos containing brake assemblies.

6. LOW PRESSURE WASH METHOD EQUIPMENT AND CLOTHING NEEDED:

Mechanic coveralls
Splash goggles (eye protection)
Disposable gloves (latex or nitrile exam gloves)
Low Pressure "Hot Cleanser" machine to wet down brake parts
Catch Basin/Container to place under the brake assembly (comes with pressure washer)
Rags
Water
Heavy duty plastic bags for packing of used brake parts
Heavy duty plastic bags for packing rags and other contaminated materials
Drum and big bags approved for disposal of solid asbestos waste (not a trash can)
Drum for asbestos contaminated water

7. LOW PRESSURE WASH METHOD STEP BY STEP PROCEDURE:

a. Place a catch basin under the brake and clutch assembly to catch runoff and debris.

b. Prepare low pressure "Hot Cleanser" machine

c. Wet brakes through anchor plate holes with the low pressure machine (use a nozzle and low pressure so as not to cause overspray)

d. Spray into hole for 5-10 seconds

e. Rotate hub/brake drum 90 degrees and spray again into holes of anchor plate. Continue process until 360 degrees have been wetted.

f. Wet the hub/brake drum from the outside.

g. Use proper lifting device(s) for dismantling process. If any dust or debris fall to the floor at anytime during any procedures, immediately dampen with fine mist from the low pressure machine and wipe up with a rag.

h. Wipe inside and outside of wet drum with a rag to remove dust and debris. Dispose of rag in the proper waste bag. If the drum is small enough to fit into drip basin, place the drum in it and clean with the low pressure machine.

i. Wet brake assembly and shoes thoroughly with the low pressure machine. Ensure all water goes into drip pan, no overspray.

j. After water stops dripping, remove drip pan (trip hazard) to a safe place.

k. All overspray must be immediately wiped up to prevent spread of contaminated water.

l. Remove brake assemblies.

m. Pack the brake assemblies in suitable, sealed and leak-proof plastic bags for asbestos containing waste. The components should not dry out during this process and should be maintained in a wet condition. The plastic bag should be J-sealed by twisting the top of the bag to form a cigar shape; it then should be folded over on itself in a gooseneck fashion. The bag should then be sealed utilizing preferable plastic zip strips or duct tape to wrap around the gooseneck. The bagged brake assemblies will be turned into your respective SSA's. Any asbestos containing waste needs to be secured for transportation to prevent the release of asbestos fibers during the transportation and loading/unloading process.

n. Place the rags used to wipe overspray and to wipe inside of drum into a separate bag to be disposed of as hazardous waste. As rags are used place them into the bag. When the operation is complete place all waste (rags, gloves etc.) into the bag. Clean the work area and floor with damp rags (never dry sweep the floor) and dispose of the rags in the bag with the other waste material and seal it using the J-sealed method as described in paragraph m above. Place a label on the bag that says

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

Put the plastic bag in a barrel (lined with another durable plastic bag) labeled **CAUTION ASBESTOS WASTE** and place the lid on the barrel. The barrels are provided by the USAG Heidelberg Environmental Division.

o. Install new, non-asbestos containing brake assemblies.

p. Pour asbestos contaminated water into a drum labeled **CAUTION ASBESTOS WASTE,** for disposal as liquid asbestos waste.

8. WASTE DISPOSAL: CAUTION: DO NOT DISPOSE OF ASBESTOS WASTE IN A WASTEWATER COLLECTION OR TREATMENT SYSTEM!

a. Treat all asbestos-contaminated scrap material as hazardous waste. Seal any asbestos waste, debris, bags, containers, equipment, and clothing in impermeable containers before transport and disposal.

b. Call the local Environmental Coordinator at the DPW for the proper disposal method.

9. REFERENCES

See Appendix A

10. MATERIALS CONTAINING ASBESTOS:

See Appendix B

APPENDIX A

REFERENCES

1. Title 29, Code of Federal Regulations, Part 1910.1001, Asbestos.

2. Title 29, Code of Federal Regulations, Part 1910, Occupational Safety and Health Standards, 1 July 1987, Appendix F to section 1001, Work Practices and Operations Non-Mandatory, Revised 1989.

3. Department of Defense Instruction No. 6055.5, Industrial Hygiene and Occupational Health, 19 August 1998.

4. Berufsgenossenschaftliche Richtlinie 157 – Fahrzeuginstandhaltung (formerly ZH1/454)

APPENDIX B

KNOWN MATERIALS CONTAINING ASBESTOS BY NATIONAL STOCK NUMBERS

STOCK NUMBER	CAGE	PART NO.	TRADE NAME
31690-000096043	325500	3A	Insulator 5001179
32530-001744443	376126	3A	Drum Brake Segment Blocks
31630-002800240 Aircraft	325500	3A	Shield Subassembly A10
31630-003130700	325500	3A	Lining, Part No. 9521408
31630-005678136	325500	3A	Insulator, 9526054
31631-007395142	32550	3A	Brake Parts Kit, 940019
31630-007580978	32550	3A	Brake Kit, Part No. 99500309
31630-008722325	32550	3A	Parts Kit, Part No. 9500328-1
31630-008747274	32550	3A	39440345 Brake Assembly
31630-009114164	32550	3A	Repair Kit: 940032
31630-009390468 95343112	325500	3A	Friction Lining, Part No.
31630-009706671	325500	3A	Brake Assembly: 9560538
31630-010457109	325500	3A	Wheel Assembly
31630-010676053	325500	3A	Insulator

Taken from the 1 February 1990 issue of the Hazard Material Information System (HMIS),
DoD 6050.5-LR